What is the pediatric CI Therapy program?: An overview

The program is located in downtown Birmingham, AL at Children’s Hospital. It is modeled after Dr. Edward Taub’s five years of pediatric CI Therapy research, and our first patient was treated in May of 2007. Since then, we have treated children with cerebral palsy, schizencephaly, acquired stroke, brain tumors, hemispherectomies, and brachial plexus injuries.

Participating families have been from all over the US and from other countries as well. Patients range in age from 2-20 years old, and their treatment is individualized according to their specific therapeutic needs. We are currently seeing patients for three hours per day, five days per week, and there are both two and three-week treatment schedules.

There are a total of four occupational therapists trained in pediatric CI therapy on our staff, and we will conduct our first pediatric training course open to therapists in the Fall of 2008. For more information regarding the program, please call 205-939-6293.

What to expect when you are here

While participating in the pediatric CI Therapy program, you will gain the skills and resources to address your child’s specific needs. The following is a typical treatment schedule:

Day One: We will conduct pre-testing and casting, or other restraint depending on the patient’s age. We will fabricate two casts and place one on the patient for treatment. Treatment time on day one varies, but our goal is to introduce treatment techniques and daily routine. The cast is to be worn at all times, but we will check for any skin irritation and clean the arm every 2-3 days.

Treatment Days: Patients will participate in three hour sessions five days per week for two to three weeks. Activities are developmentally appropriate and chosen according to the skill level of the child. At the end of the day, we will go over home activities and ask questions designed to rate performance during treatment.

Last Thursday of Treatment: We will treat with the cast on as needed, but typically the cast is removed one hour into treatment. We continue to encourage use of the affected arm but incorporate bilateral activities as well.

Last day of treatment: Post-testing is conducted as needed. We will give you a home program and answer any questions regarding reinforcing activities at home.

Follow-ups: We will conduct four weekly follow-ups and a three-month follow-up by phone, which will take about twenty minutes. Research has shown that retention rates dramatically increase when follow-ups are conducted post-treatment. These are a requirement of the program and will be scheduled at times agreed upon by therapist and family. Return visits to the program are dependent upon completion of all follow-ups, and this is an opportunity to ask the therapist any questions you may have.
"My Experience with CI Therapy": A Parent’s View

Our first child, Jameson, suffered a stroke at birth resulting in right-sided hemiplegia. When she was two and a half years old, we enrolled her in the Constraint-Induced Therapy study that preceded the clinic at Children’s Hospital in Birmingham, AL. Initially, we were concerned about putting a cast on our daughter’s more functional arm and the emotional ramifications that could result. However, we were soon amazed at not only her ability to adapt to this restriction, but also at her determination to develop function in her right arm and hand. We were very pleased with her progress by the end of the three-week study.

Thirteen months later, we brought Jameson to the Constraint-Induced Therapy Clinic at Children’s Hospital, and we were excited to have another opportunity to receive this type of intervention. We found the therapists to be skilled in maximizing the potential of each patient by providing the right combination of work ethic, expectations, and compassionate care for our child. We feel very fortunate to have such skilled and caring individuals involved in our daughter’s rehabilitation.

Jameson’s CI therapist developed a home program for the family which gave us the tools we needed to go back to our daily lives and integrate all that we learned in the three weeks with the clinic. Through telephone follow-ups, we are able to ask any questions of her therapist that may arise. Although it has been difficult at times to persuade Jameson to use her weaker arm or hand, she seems to have a new confidence that she has an ability that once was not available to her. Some days are better than others, but overall we have managed to carve out some time and therapeutic play to maintain the progress she made at the CI clinic in Birmingham.

CI Therapy is a commitment by everyone involved, but one well worth it for our daughter’s future. It has given Jameson a true foundation for success and provided us, as her parents, with a rich resource for therapeutic outcomes.

Letter from Edward Taub, Ph.D., Scientific Director of the Pediatric CI Therapy Program and Developer of the Treatment.

I originally developed CI therapy while doing basic research with infant and adult monkeys. We began our work with humans with adults who experienced a stroke and later with adults who received traumatic brain injury. We named the treatment Constraint-Induced Movement Therapy or, since that is admittedly a mouthful, CI therapy. The results were excellent.

We began our work with adults in 1987 and by 1994 I and two of my students converted the adult version of CI therapy to a form suitable for use with young children. With adults we used at first a sling to prevent the stronger arm from being used and later a mitt similar to a baseball catcher’s mitt. We knew, however that you couldn’t just ask young children to leave their hand in a sling or to not remove a restraining glove. We had to do something that wouldn’t require a child’s cooperation. One of the students came up with the idea of using a long cast. When we tried this, we found that young children adjusted to it very rapidly. They could choose the color of the material used to wrap the cast and some of the children decided it was their “web-blaster,” just like Spiderman has. (Continued on Page 3)
With adults we usually arrange tasks into 30 second “trials,” and count the number of repetitions of a task a patient carries out in a trial. The patient’s task is to keep increasing the speed of his movements while maintaining the quality of the movement or, hopefully, improving it. Adults do very well with this procedure, trying as hard as they can to better their previous personal best. However, it was obvious that for young children this approach wouldn’t work well, or wouldn’t work at all. Instead, we carry out all of the therapy training in the context of play. Most children enjoy the therapy. After all, how often can they have a cheerful and accepting adult play with them for many hours a day?

We started out by working with children with motor impairments for 6 hours a day for 21 consecutive days, including weekends. By a careful process of research we have found that we get just as good results working with children 3 hours a day, 5 days a week for 2 or 3 weeks (depending on the severity of the impairment of movement.) Although we started out training all children in their own homes, we have found that if you use the correct techniques children do just as well when trained in the clinic. The Pediatric CI Therapy program at Children’s Hospital benefits from involvement in this ongoing research and training.

We have also found that parents have a critically important role to play in improving the use of a child’s weaker arm. After treatment is over and the cast comes off the stronger arm, the child will keep using the weaker arm for an extended period. Over time, however, there is a tendency for the stronger arm to be used more and more. Adult patients commonly remind themselves to use the affected arm, but children often do not. The parent is taught to “coach” the child to keep using “lefty” (or “righty”) and children retain the improvement in movement produced by the treatment as well as adults do.

Before closing, I should say that it is very rewarding for us to treat children with cerebral palsy, early stroke, or some other condition that produces an impairment in movement. We see the immediate improvement that the child makes. In addition, we are also aware that a child still has an entire lifetime ahead of them, and we have the privilege of knowing that the work we have carried out will improve the independence and quality of life of our little patients over many years.

With our warmest regards to you and yours,
Edward Taub, Ph.D.
Scientific Director, Pediatric CI Therapy Program
Director, UAB Taub Therapy Clinic and CI Therapy Research Group

Meet Our Pediatric CI Therapy Team

Our staff of occupational therapists has a combined total of 40 years experience. We are trained in the CI Therapy protocol, and we also see children with a variety of disabilities on an outpatient basis. We are excited about the goals patients are achieving in this program, and we value the time and effort it requires to participate and follow through at home. We welcome calls and emails through the contacts listed below.

Listed from left to right: Jennifer Nick, MS, OTR/L; Bryony Lane, MS, OTR/L; Katherine Goldman, MS, OTR/L; Angi Griffin, MA, OTL (Coordinator)